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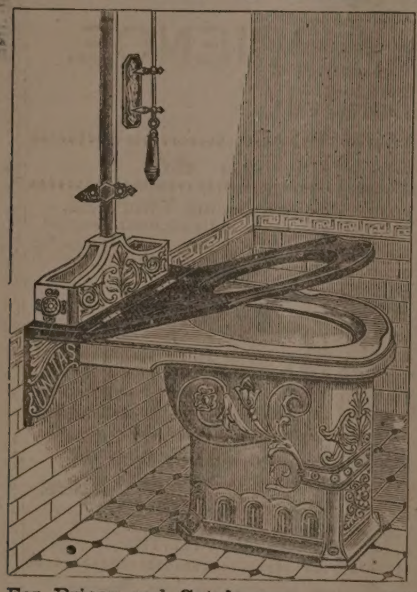

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HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, APRIL* 6, 1888.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder*.

DR. W. J. COLLINS has been making some interesting researches regarding the effect of tight lacing upon the secretion of bile. In the course of his remarks he says rightly that "Fashion cares little for the preaching of pathology, and, still regardless of the facts of anatomy, looks to the wasp for the ideal of what the nexus between thorax and abdomen ought to be. The effects of cramping the chest movements upon lungs and heart, liver and stomach, and the rest, have been for the most part described in vague and indefinite generalizations."

✣ ✣ ✣

HAVING had occasion to collect the bile of guinea-pigs, Dr. Collins was struck by the considerable effect which breathing movements had upon the passage of bile into his collecting tubes. "With each descent of the diaphragm (or great muscle of breathing) there was advance of the column of bile, and with each expiration a slight retrogression or arrest of advance. Moreover, powerful respiratory exertion considerably augmented the outflow, and even the slightly accelerated respiration which accompanied the administration of ether was not without its distinct effect."

"IT occurred to me," adds Dr. Collins, "to see what would be the result of placing a constricting band round the lower part of the thorax. I accordingly selected a guinea-pig in which the biliary discharge from the cannula (or collecting tube) was free and in full quantity, and I collected the amount of bile secreted at regular intervals until a fair average could be obtained. I then tied a tape band about one inch wide round the guinea-pig's waist (if such, by courtesy, can be allowed to exist), reducing the circumference thereof from five inches and a quarter to four inches, but not so as to cause any formidable risk of dyspnœa (*i.e.*, difficulty of breathing). After collecting the bile secreted at stated intervals, I removed the "stays" and again collected as before. I found that before the tight lacing began bile was being secreted at the rate of 8·4 cub. cents. per hour; during the tight lacing this fell to the rate of 4·5 cub. cents. per hour, and after the removal of the constriction again rose to 7·8 cub. cents. per hour."

✣ ✣ ✣

DR. COLLINS repeated the experiment in other animals with like result. He concludes: "That it would appear that by reducing the circumference of the lower part of the thorax (or chest) by about one-fourth, the bile secretion is reduced about one-half. It is useless to assert that it is bile expulsion, not bile secretion, that we are dealing with here, for the bile being secreted at a pressure very slightly above that of blood pressure, the mere presence of bile in the canaliculi (or liver-tubes) is to some extent detrimental to secretion behind it; whereas the rapid evacuation of the bile channels, which free diaphragmatic movement ensures, is salutary to increased elimination of bile." In other words, in free and unrestrained breathing-movements, where the midriff or diaphragm is not in any way interfered with in its movements, the action of the liver must of necessity fail.

✣ ✣ ✣

DR. COLLINS' researches place an additional argument in the hands of health-lecturers against tight lacing. He adds, that "The free and unfettered action of the diaphragm, then, is essential to normal biliary secretion, and effects evacuation of the bile ducts much in the same way as succussion of the liver which saddle exercise affords, and which led Sydenham to opine that "the outside of a horse is the best thing for the inside of a man." This being so, what must be the effect of chronic restraint in those whose waists are for ever "cribbed, cabined, confined" by corsets with clasped steels and constricting laces? It is such as we might anticipate and have often seen, and the above merely points our knowledge and makes it more precise.

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"Deficient bile, dyspepsia, sickness, constipation," with other diseased conditions, Dr. Collins adds, "form a natural sequence, and one far from unfamiliar. Alas, the remedy is too simple to be thought worthy of consideration, too much within the patient's own control to run a chance of being carried out. For, *of course*, no woman ever yet tight laced herself; habit has become so much a second nature, the ideal wasp waist so ingrained in the sex, so intensified by inheritance, that there is much of *bona fides* in the invariable disclaimer. Be it so. If no woman "pinches" she will not object to employ elastic laces, which at best in her case will be a superfluity, and may not improbably permit a reversion to the waists of the Capua and Canova along with a measure of relief to the liver and its secretion. After such an *exposé* of what tight lacing may do for ill-health, we may strengthen our hands anew against the viciousness of the practice. Physicians henceforth may find an easy remedy for biliousness and allied conditions in tightly-laced patients, by suggesting a slackening of the girdle wherewith senseless Fashion cramps the chests of its votaries.

✪ ✪ ✪

The *British Medical Journal* lately gave an interesting *résumé* regarding the mortality of moderate drinkers. Total abstainers will peruse its details with unmixed satisfaction. The United Kingdom Temperance and General Provident Institution, says our contemporary, has two sections of lives. The one section consists of abstainers only; the other of non-abstainers, known drunkards being excluded. During the period of twenty-one years, the number of expected deaths in the moderation section was 5,785. Only 164 fewer deaths actually occurred. The expectancy among the abstaining assured was 3,655, and the deaths amounted to 1,076 less. There is, therefore, the enormous deficiency in favour of teetotal survivors beyond expectancy of fully 26 per cent. The teetotal assured have received bonuses, on an average, 24 per cent. higher than have accrued to the restricted drinkers. Authentic returns of the time during which members of friendly societies have received benefit tend to show the comparative freedom from incapacitating illness of abstainers.

✪ ✪ ✪

The *Rechabite Directory* for 1887-8 (quoted by the *Wiltshire County Mirror and Express*) gives some interesting comparisons. Between 20 and 60 years of age the Salford Unity of Rechabites (all abstainers) show only 48 weeks, as against 59·6 weeks of the Manchester Unity of Oddfellows, a superiority of 11·6 weeks. Between 60 and 70 years the Rechabites had 50·1 weeks to 62·5 weeks of the Oddfellows, a difference of 12·4 weeks. Grouping these figures together, the Rechabites had 98·1 weeks as against 122·1 weeks of the Oddfellows, a gain of 24 weeks. The abstaining followers of the Sons of Rechab also come out well compared with the Foresters. From 20 to 70 years of age they suffered from 98 weeks of ill-health, as opposed to 126·3 weeks among the Ancient Order of Foresters; between 70 and 80 years, from 122 weeks, as opposed to 148·2 weeks among the Foresters. Collecting these returns together, the Rechabites required financial benefits during 220 weeks, and the Foresters during 274·5 weeks, a difference in favour of the Rechabites of 54·5 weeks. There can be little doubt, concludes the journal, as to the general tendency of these striking tables in favour of the healthfulness of practising temperance.

Original Essays

"Life is not to live, but to be well."—*Martial.*

"LIKE BEGETS LIKE."

By Dr. E. J. Dungate.

FIRST PAPER.

PECULIARITIES IN STRUCTURE.

The subject of heredity—or the law that "like begets like"—can never fail to be one of extreme interest to every thinking man. It is directly connected with our life and social relations; and, as Milton says:

"To know
That which lies before us in daily life
Is the prime wisdom."

Its study teaches us the terrible results of the violation of sanitary laws, of marriages of consanguinity, and of other habits by which morbid tendencies are intensified in posterity. It shows us how often "the fathers have eaten sour grapes, and the teeth of the children are set on edge."

We have reason to believe that just as certainly as one child may be born with six fingers on each hand, and another with a clubfoot, so a child may be born a drunkard or a thief, as others also are born princes and princesses. No one doubts that peculiar features may be inherited. May not modes of thought and mental habits also be inherited? Three hundred years ago the clever Montaigne said: "Quel monstre est-ce, que cette goutte de semence de quoy nous sommes produicts, porte en soi les impressions non de la forme corporelle seulement, mais des pensements et des inclinations de nos pères?"† Harvey says: "The son is born like his parents, and virtues which ennoble and vices which degrade a race are sometimes passed on to descendants through a long series of years." The subject, in its general aspects, has been studied by thoughtful men in very early times. Seneca says, in his quaint manner (in "Nat. Quaest," lib. III): "The unborn babe has written within it the law of a beard and a hoary head, for the whole body and head of future years are already traced in delicate and obscure outlines in its constitution."

The most interesting of the various phenomena of heredity are those connected with external features,‡ which may be noticed at a glance. Everyone has heard of the aquiline nose of the Bourbons, and of that peculiar thickness of the upper lip in the Imperial house of Austria—the Austrian lip. The Dante type may still be seen in Tuscany, and the busts of the Medici in Bologna, Ferrara, and Milan. The lineaments of our Royal Family may be traced through at least three generations. Burton, that keen observer of everything

† "Is it not marvellous that this drop of matter from which we are produced should bear the impression, not only of the bodily form, but even of the thoughts and the inclinations of our fathers?"

‡ Ribot says that of all the features the nose is the one which heredity preserves best.

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connected with humanity, says in his "Anatomy of Melancholy": "That famous family of Œnobarbi were known of old, and so surnamed from their red beards; the Austrian lip, and those Indian flat noses are propagated, the Bavarian chin, and goggle eyes amongst the Jews, as Buxtorfuis observes; their voice, pace, gesture, looks, are likewise derived *with all the rest of their conditions and infirmities.*

Individuals have often been named from striking features—*e.g.*, Strabo, the Squint-eyed; Barbatus, the Bearded one; Flaccus, the Flap-eared; Cincinnatus, the Curly-headed one. Families have also been similarly named. Amongst the Romans, again, were families called Labeones, or Thick-lipped; Nasones, or Great-nosed; Capitones, or Big-headed; Buccones, or Swollen-cheeked, &c. The families of the Vari and the Valgi probably derived their names from the deformities which are so called: valgus, bow-legged; varus, knock-kneed. Some of these names may have been nicknames (or (ekenames), and afterwards have become hereditary; but it is certain that others referred to well-known family peculiarities of structure.

Waitz, speaking of hereditary peculiarities of structure, says, "The most frequently quoted instances of this kind are the thick lips of the house of Hapsburg since its alliance with the Jagellones, and the tall Life Guards of Frederick I. of Prussia, who produced a large-sized progeny." "Every fourth birth the mark of the origin of the Dacian family is repeated on the arm," says Pliny. The Montmorencies, an illustrious French family, had nearly all a peculiar look, which has been described as a sort of half-squint; and it is said that in Persia if a descendant of the Prophet be brought into the world without its upper eye-lids being pink, it is believed to be illegitimate. Sir Henry Holland notices a similar peculiarity. "In a family," says he, "where the father had a singular elongation of the upper eye-lid, seven or eight children were born with the same deformity." Haller relates that the Bentivoglios had a slightly prominent tumour on their bodies, which grew larger whenever a moist wind was coming, and thus acted as a kind of weather-glass. This peculiarity was regularly transmitted from father to son.

Darwin remarks that "greyness of hair at an unusually early age has been transmitted in some families." Premature baldness is also hereditary, and so is the possession of luxuriant hair. Not only does a son usually become bald if his father is bald, but frequently the baldness commences at the same time and at the same place, commencing at the forehead and extending backwards, or at the crown and extending forwards, as the case may be. "In the absence of disturbing agencies," says Sir T. Watson, "the son attains maturity, becomes grey or bald, acquires a stoop or a round belly, loses his teeth and his memory, and finally yields up his life, at about the same age, and after the same manner with his father."

Hereditary resemblances have given rise to adventures which have formed the main interest of many a comedy and of many a novel. Marryat has taken advantage of such possibilities in his novel, "Japhet in Search of a Father," and everyone knows the awkward situations in the "Comedy of Errors," owing to the extraordinary resemblance of the two brothers Antipholus and a similar resemblance in their two servants, the Dromios. The likeness between a son and his father at the same age is often startling to old friends of the family, and when they see that this extends to the most minute peculiarities of gait, gesture, and disposition, and they remark the same merry twinkle in the eye and the same love of frolic which they remember the father to have had, they exclaim, "Ah! this is a chip of the old block!"

"Like begets like," and yet, so far as we know, no two beings are identically the same. Deviations from the type are continually occurring. The leopard may change its spots and the Ethiopian his skin. Some of the wisest of men have been fathers of idiotic children. The son of Solomon was a fool, and so was the son of Socrates. Milton's eldest daughter was deformed and ignorant; the son of the polite Lord Chesterfield was a booby; the sons of Oliver Cromwell were, as Prosper Lucas observes, merely "Arcadian shepherds." These differences are very common. "*Heroum filii, noxæ, amenteo, Hippocratis filii,*" says a famous Latin proverb, and Aristotle renders the same notion—"the most brilliant families pass off into insanity; those of steadier ability into idiocy." In modern history "it is enough," says Lucas, "to mention the sons of Henri IV., of Louis XIV., of Cromwell, of Peter the Great, as also those of La Fontaine, Crébillon, Goethe, and Napoleon." These examples, however, are not necessarily breaches of the law of heredity, for the stupidity may be inherited from the mother or from the grandparents. They may be instances of what is called reversion, or atavism.

Twins are often marvellously unlike both in physical and mental attributes, or almost exactly alike in the one and very unlike in the other. Dr. Maudsley remarks, "The so-called Siamese twins, who died a few years ago, did not live happily together to the end of their days; one gave way to drinking, thereby disturbing much the other's comfort, and they quarrelled so much on that account, and because they took opposite views of the American Civil War, that they were earnestly eager to have a separation of bodies, and consulted eminent surgeons on the subject." Dr. Elam says, "The only instance which we need mention is that of Ritta and Christina, the Presbourg twins, who were united by an organic connection. Of these, one was pleasant, quiet, and amiable; the other was plain, ill-tempered, quarrelsome, and of extremely excitable passions; she was so violent against her inseparable sister, that they could not be trusted alone."

We are obliged to admit that there is a law of diversity as well as a law of identity; but the former is not nearly so rigid in its certainty as the latter, and the diversity is a diversity of similitude. A French writer says: "Il n'y a rien dans l'animal, qui ne puisse se transmettre par génération."

It has been suggested that *mutilation* may have been the cause of many inherited peculiarities of structure. Darwin gives examples of the results of mutilation being inherited; and yet he says in the "Origin of Species" (page 135), "there is not sufficient evidence to induce us to believe that mutilations are ever inherited." There are certainly some cases where the results of mutilation appear to have become hereditary. In Stonehenge's work on the "Dogs of the British Isles," the following passage occurs: "As the shepherd's dog under the old excise laws was only exempt from tax when the tail was cut off, it was formerly always removed; and, in process of time, many mothers produced litters—or parts of litters—wholly without tails: and an instance of this has occurred in our own experience." M. de Quatrefages tells us that the Esquimaux are in the habit of cutting off the tails of those dogs which they harness to the sledges. The dogs thus mutilated frequently produce tailless puppies. Darwin speaks of instances recorded of cats, dogs, and horses which, having had their

amputated, gave birth to progeny having a similar formation. "Is it unlikely," says Dr. Ogle, "that the races of one-eared and earless rabbits (the latter are mentioned by Darwin), tailless cats and dogs and monkeys, which are familiar to us, have had their beginnings in mutilations?" Waitz, quoting another observer, remarks that there are dogs in Carolina which, for several generations, have been without tails, because an ancestor had lost its tail accidentally. This suggests the probability of the Manx cats being the progeny of an ancestor which, in its time, was somewhat brutally treated.* A similar instance is given by Darwin of a cow, which had lost a horn by suppuration, and produced three calves, which were without a horn on the same side of the head. He mentions, too, a case of a stag wanting a horn by reason of an ancestor losing the same structure.

CLEANLINESS.

By Dr. A. J. H. Crespi, Wimborne.

Cleanliness is important, if only for the delightful exhilaration and comfort attention to it brings. In addition to this, keeping the skin clean removes, or rather renders impossible, that peculiar but offensive odour which is noticed wherever regular and sufficient ablutions are not practised. A delicious feeling of buoyancy and comfort, and freedom from the disagreeable aroma showing that the body is neglected, are rewards ample enough, were they the only ones, to render, in all cases and seasons, scrupulous attention to cleanliness indispensable and invaluable. The skin, however, is a most complex and important organ, and on its performing its functions depend, not only comfort and good health, but the continuance of life.

The skin, it must never be forgotten, is one of the principal excretory organs. Through its minute pores, from the hour of birth to the moment of death, pass prodigious quantities of noxious and used-up materials. The amount of these is not easily ascertained, but the results of accurate experiments are startling. It is a moderate calculation to place the excreted material in an adult between twenty and fifty ounces daily. If the action of the skin could be entirely suspended for two days and nights, four to five pints of poisonous matter would be retained in the system, and would frightfully impair the general health, or find an exit by some other channel. Life, however, could not be preserved for two days, were the pores hermetically closed, so that we need not discuss the consequences. It is certain that, were they hermetically sealed for a few hours with wax or Plaster of Paris, death would ensue. So that it comes to this, that the skin must be in full working order if life and health are to be preserved.

The structure of this important organ is curious. There is an outermost layer—dry, hard, and incapable of feeling pain; this is the epidermis or scarf-skin. Its use is to protect the delicate and sensitive subjacent textures. Under the scarf-skin lies the mucous coat, containing the colouring matter. Underneath the mucous coat is the true skin, a marvellous and beautiful network of bloodvessels and nerves, and the seat of that exquisite sense—touch. Hard work thickens the outermost layer, which is constantly peeling or scaling off. The use of soap and water removes the superfluous scarf-skin, keeps the skin soft and moist, and able to discharge its functions properly, and prevents the accumulation, on the surface of the body, of dry animal matter, unpleasant from its odour, and interfering with the work the skin has to do.

Though health suffers when the functions of the skin are suspended, there is a beautiful relation between its functions and those of the kidneys—another of the principal emunctories of the body. In warm weather the skin is extraordinarily active; in cold the kidneys do double work. In hot weather, unless the pores are open, to facilitate the passage of perspiration—nature's mode of diminishing the exalted temperature of the system—how can one expect to enjoy the bright days of summer? Although both organs have at all seasons a fair share of work—though the activity of one makes up for the sluggishness of the other—time is required for the relation, normally existing, to be safely disturbed, and it is necessary that even then both organs should continue in full operation. For instance, in summer the blood flows briskly to the surface of the body, and the skin is unusually active; in winter blood is chiefly found in the more protected parts of the body, and the kidneys are then the great emunctory. Should the temperature suddenly change, and a very cold day succeed a warm one, there is not time for that safe and gradual adjustment on which the health of the body depends, and a bad cold usually follows; the action of the skin is checked before the kidneys are ready for the extra work thrown upon them. Peace of mind, wholesome, well-cooked food, abundance of outdoor exercise, and warmth and cleanliness, one and all play their part in keeping the skin and kidneys in health, and ready to assist and relieve each other in sudden changes of temperature.

The surest way to clean the skin is to use soap and hot water freely and often. Among the better classes the face and hands are well cared for; but it is not always easy to keep the whole body clean, and the difficulties are sometimes insuperable. Few houses are well provided with hot and cold water, and with a convenient bathroom. In such circumstances neglect of personal cleanliness is pardonable. In the far greater number of homes still less fortunately circumstanced, where money is scarce and the facilities for cleanliness small, what is to be done? To ensure cleanliness the whole body ought to be frequently immersed in warm water, and vigorously scrubbed with a good brush and plenty of soap. Cold water, abundant enough in most homes, gives too great a shock to make its use a general favourite, though a vigorous constitution and long habit make cold water as pleasant as warm. Warm water, which never does injure anyone, is not obtainable everywhere in large quantities. Wherever practicable, a bath ought to be part of the household furniture, and to be frequently in requisition. When a mother is reduced to the necessity of using a small tub for the weekly ablutions, her unfortunate children learn to look with horror on the uncomfortable process of being scrubbed with plenty of soap but little water, and, in later life, retain the dislike to a bath which their mother's poverty implanted.

Among the poor, it is the exception to find facilities for cleanliness. It is painful to have to confess that it is doubtful whether one working-man's family in thirty has conveniences for this. The skin is neglected, and

* Since writing the above, we notice that Mr. J. Poulton, in an article on heredity in cats, in *Nature* for Nov. 11, 1886, suggests another explanation of their origin. He says: "Professor Lankester supposes that a tailless individual appeared spontaneously, and that it was considered interesting and a curiosity; and when the abnormality reappeared in some of its offspring, these were kept in preference to the normal forms." Mr. Poulton further remarks that there are tailless breeds of other animals, which are fashionable in the Isle of Man, apparently showing a variability of taste working upon a spontaneous variety.

gets unsavoury, and one of the chief emunctories is seriously interfered with, and at last becomes incapable of doing its work. I do not like to introduce disgusting topics, but I knew a strong, respectable man in Gloucestershire who has not had a bath since he was a child, and, what is more, was angry when I advised him to have one. This person is now nearly eighty.

Few large towns are now so unfortunate as not to be supplied with public baths, and though they are occasionally used by the working classes, the advantages of frequently resorting to them are not generally understood. For cleanliness, a warm bath at least six or eight times a year is important. Were this moderate allowance general, it would prevent many an illness, many a cold. The allowance here named will seem ridiculously insufficient to those who have a good bath-room in their houses and use it weekly. But few small tradesmen and mechanics ever have a warm bath at all, and as for one every six or eight weeks, why that would frighten them out of their senses. Many of the poor allow years to elapse without cleansing the whole of the body. In the Irish quarters of large towns it is the exception to meet with persons who have had one good warm bath in their whole lives.

A warm bath should be frequently taken; its temperature should range from 84 degs. to 100 degs. F. 96 degs. F. would generally be the thing. The best rule is that the water should be warm enough to give a pleasant feeling, nothing more. Twenty minutes is not too long to remain in the water, and the free use of soap ought not to be forgotten. When possible, a bath, warm or cold, according to taste and custom, two or three times a week, would be of great service, especially in warm weather: even in cold weather its use ought not to be forgotten.

A cold bath is a capital thing in the morning, so are cold baths in the warmer season of the year. A brief immersion in cold water is valuable for the power it confers of resisting exposure to cold and damp, but it is not sufficient to keep the body clean. When anyone makes up his mind to form the habit of sponging himself well every morning, it is advisable to begin in summer, and not to persevere if the feeling of chilliness which contact with the cold sponge causes lasts after the body is thoroughly dried. Unless the body becomes warm and comfortable, injury rather than good may result.

When the weather is so cold that the body does not recover its temperature directly after having been rubbed dry, it would be more prudent to give up the morning bath until the return of warmer weather.

It would be difficult to express too high an opinion of swimming, especially for residents in towns. It is a delightful and healthy exercise, and calls into play the muscles of the body, while cleansing the pores thoroughly. In addition to these advantages, swimming is an accomplishment which all who have the opportunity should master. Knowing how to swim has saved thousands of lives, and those who can swim can with safety pass some of their leisure boating or yachting—amusements that yearly cost hundreds of lives which might, with care, long be preserved.

Attention to cleanliness is important as a safeguard against disease. That painful and sometimes fatal complaint, Painter's Colic—caused by the absorption of lead—is more effectually prevented by frequent warm baths, and careful washing of the hands and face before every meal, than by anything else. Many unpleasant skin eruptions are easily kept in check or cured by cleanliness; while warm baths, frequently and regularly taken, are invaluable in chronic rheumatism and in other complaints. Attention to cleanliness, in its broadest sense, certainly increases comfort and strength and wards off disease.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

CHRONIC MALARIA.

Malarial troubles are of a diverse and often perplexing nature, for they assume such a variety of phases that their nature sometimes escapes notice. Chronic malaria becomes, then, a disease sometimes masked with an obstinate type of dyspepsia, a chronic diarrhœa, a nervous affection, such as neuralgia. It is quite clear that in any case where the apparent trouble alone is treated little or no good will be accomplished, and for a cure to be effected the malaria itself must be treated.

A gentleman troubled with dyspepsia, and in failing health, left Washington for the Continent. He was taken ill in London, after a stay of some weeks in England and abroad, with sore throat, accompanied by loss of appetite, aching bones, and an enlarged spleen. He was given five one-grain calomel tabloids, and a two-grain quinine-bisulphate tabloid every two hours, and in thirty-six hours his dyspepsia, sore throat, and all the rest had disappeared. The advantage of giving the form of quinine referred to is that it is soluble in ten parts of water, whereas that in common use is only soluble in 700 parts, and much of what is given may be wasted.

Arsenic is an agent of no mean value in malaria, but should be taken in small doses continuously. One drop of Fowler's solution after each meal in a wine-glass of water will do well, but should occasionally be supplemented with the quinine.

Eucalyptia is an agent which has cured hundreds of cases when other remedies failed.

In nearly all malarial affections acids do good, and a very excellent procedure is to take a glass of lemonade some time before breakfast in the morning. It should not be so sour as to set the teeth on edge.

When there is a deranged liver from the "fever" contracted years ago in India, the one agent that will do more good than any other is chloride of ammonium. Two five-grain tabloids should be taken thrice daily with a glass of water. This will also relieve, in thirty-grain doses, malarial neuralgia; in fact, it is our best remedy for this complaint generally.

Good food and nourishment are indispensable, but of no avail without the specifics mentioned. Beef and iron wine (Burroughs) are of special use in malarial anæmia, when the face is pale and wan.

TYPHOID FEVER AND POLLUTED WATER.

Dr. Chalmers, of Mossend, gives the following instructive notes in the *Glasgow Medical Journal*. The account includes details of great public interest and value as regards the origin of typhoid fever.

In the latter part of December, 1887, enteric (or typhoid) fever appeared among the workmen in the employment of the Clydesdale Iron and Steel Company, Holytown, and the facts which rapidly accumulated thereafter form a pretty complete picture of a local outbreak with a very distinct and traceable cause. The cases came under the charge of Dr. Mac[illegible]

Bellshill, medical officer to the Company, and to him and the sanitary inspector of the district I am indebted for the following particulars. The cases, as will be seen from the annexed table, group themselves in two divisions; a first and larger group representing a first crop from the primary centre of infection, and a second group drawing its infection from this first division. Directly the cases in Group I. came under observation, attention was arrested by the fact, already stated, that they were all males, and lived in widely separated districts, some at Holytown, others at Mossend, and others again in the houses of the Clydesdale Company, in proximity to the works.

In searching for an explanation of the outbreak, the domestic water supply was excluded, for the reason that other members of the family and neighbours escaped; while the milk supply was from various sources. Manifestly the cause was operative at the point where the men met in common, at their work, and enquiry revealed the fact that while there the men drank freely from a spring well in the neighbourhood. This well, however, had been in use for years, and if the cause of the outbreak lay here some evidence of recent pollution was necessary. Pollution, however, from surface drainage of the usual sort, was excluded for sufficient reasons. But at a distance of 35 yards from this well was a reservoir for the storage of water, used entirely for trade purposes, and pumped from a stream—the South Calder—which passes the works at a distance of about half a mile.

About a mile further up its course this stream passes the town of Motherwell, and receives great part of the sewage thereof. On the 11th December this reservoir had burst, and the liberated water was of sufficient volume to overflow the ground for some distance and find its way directly into the well. The first case sickened on 17th December. The use of the well was prohibited on 28th or 29th December, and the last case among the workmen sickened on 7th January, 1888. Between 11th December and 7th January 17 workmen were known to have been attacked. Then follows an interval extending to 25th January, during which no new case arose. On that date a female relative, nursing one of the cases dating from 24th December, fell ill, as did also a child living in the house; and on 1st February the sister of the patient sickening on 29th December, followed; all three of enteric fever. On the 4th and 7th February respectively, two sisters of a lad, also a worker, but not included in the first group, because his symptoms were indefinite, also became ill of enteric fever, and, so far as is known, completed a series of cases which has many points of interest.

LIST OF CASES IN ORDER OF OCCURRENCE.

GROUP I.

Workmen drinking from polluted well.

Date of cases sickening.			
1887—Dec.	17,	1 case	—Reservoir burst 11th December, 1887.
,,	20,	1 ,,	
,,	21,	1 ,,	
,,	22,	2 ,,	
,,	24,	4 ,,	—Use of well prohibited, 28th or 29th
,,	29,	1 ,,	December.
,,	31,	2 ,,	
1888—Jan.	4,	2 ,,	
,,	5,	1 ,,	
,,	7,	1 ,,	

GROUP II.

Females connected with cases in Group I., as noted.

Date of cases sickening.			
1888—Jan.	25,	2 cases	—Sister and child; former nursing case under 24th December.
,,	Feb. 1,	1 case	—Nursing case under 29th December.
,,	4,	1 ,,	Sisters of "latent" case.
,,	7,	1 ,,	

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

EMOTIONS *VERSUS* HEALTH IN WOMEN.

By MARY T. BISSELL, M.D.

WHEN the harassed and wretched Macbeth inquired of the doctor, "Canst thou not minister to a mind diseased?" his candid physician promptly disclaimed any such high qualifications. "Therein," said he "the patient must minister to himself."

It is possible that the modern physician would appear less modest under a similar interrogation, since modern hygiene claims the entire man for its operations, concerning itself not only with his physical, but also with his mental good. Keenly alive to the intimate relations existing between mind and body, it often throws upon the physician of to-day the responsibility of determining whether the remedy indicated be chemical or spiritual. This broad outlook embraces large and small interests, and may certainly include one feature in the training of women which, we believe, is opposed to her best growth and health. We refer to a tendency which exists in her education to an undue stimulation of her emotional nature.

Woman is believed to have been endowed by Nature with a strongly emotional temperament. She is accepted as the fairest exponent of sentiments, which, in turn, lend her her chiefest charm. Tears and smiles, emotion and sensibility, are expected of her. It is permitted to her to be a blue-stocking if she will, but sympathetic and tender she must be. If Hypatia has her admirers, all the world loves Juliet. It is precisely in that natural aptitude for emotion, in that type of mind which is exquisitely sensitive to impressions and generously swayed by sympathetic feeling, that one of the great dangers to the perfection of womanhood, physical and mental, may be said to reside.

Many and varied influences tend to increase this emotional excitability until it often becomes a fixed habit of mind; an undue sensibility of the supreme centres to emotional ideas is created, which can only be maintained at the expense of sound health of body and of mind. First among these are certain home influences that are brought to bear upon a little girl from her earliest childhood, which foster in her self-consciousness and introspection.

She is generally permitted narrower limits within which she can play, can dress, can succeed, than are allowed to her brother, even when her physique is equally able. She is housed more closely, her out-of-door sports are fewer and less interesting, and her dress is too often a limitation to her freedom. Such restrictions of her liberty, and constant reference to the fact that her sex denies her this or that employment or pleasure, tend to make a child self-conscious and emotionally over-active. Methods of family discipline which depend upon appeals to the emotional natures of children have like unhealthy results, for they promote a condition of mental commotion and unrest harmful to children, who require an even atmosphere for the mind as well as for the body. There are often undue claims made upon little children for the demonstration of their affections, and this is especially true of girls.

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by Dr. C. F. Taylor, it was argued that stimulation of the emotions among children conduced not only to diseases of the spine, but also to dental caries.

Dr. Taylor says: "In my large practice among children, I am certain that scores are literally killed by the excessive amount of emotional excitement which they are forced to endure. All this hugging and kissing and talking to them is to excite responses of the same emotional nature in the child for the pleasure and gratification of the parents and friends." And again he says: "I believe that three-fifths of the spinal diseases which occur in children are directly traceable to mental overaction. And this because a large proportion of these cases get well without other treatment than a withdrawal from the exciting cause of emotional disturbance." The writer does not subscribe to this view of the causation of lateral curvature, except in so far as any influence which weakens the body may be a factor in this affection, but the opinion is of interest as suggesting the extent of this and kindred influences.

The literature which little girls are permitted to read may be held responsible for much emotional stimulation of an unhealthy character. If a man be known by the company he keeps, it is equally true that he is known by the books he reads. The last quarter of a century has opened a wide vista of healthful delight for children through the green fields of modern child literature, but the prospect is not yet entirely fair. The hot-house atmosphere prevails in many volumes which owe their birth to the present decade.

I recall a very popular series of girls' books, widely read at the present time, in which the emotional natures of the little heroines are continually maintained at concert pitch from the strain put upon them by appeals to affection, to conscience, to inordinate love of praise, &c. I have often been astonished to see intellectually promising and otherwise sensible little girls devouring pages of unhealthy sentiment such as would fill their robust little brothers with scorn and repugnance.

We need only briefly refer to the unhealthy influence exerted upon the minds of little girls by foolish indulgence in showy dress or in social dissipation. Dissipation, indeed, is a serious term to apply to the social pleasures of little children; but when we hear of children's parties beginning at nine o'clock, in which toilets and manners only suitable for their mammas are encouraged, we easily conclude that, in the lack of simplicity in social customs, we may find an abnormal stimulus to the emotional natures of American girls.

Certain school influences have a large responsibility in this direction. What is called the hot-house pressure of public schools, and the elaborate system of examinations in our higher institutions of learning, have their evil, not in the exercise of the calmer faculties of the mind, such as judgment, reason, memory, &c., but in their tendency to arouse that complex emotion called *worry*. These influences are exerted, it is true, upon girls and boys alike; but, as the facility of the girls for emotional disturbance is greater, they suffer more largely in consequence. The repeated stimulation of such complex emotions cannot fail to agitate the minds of young girls, and insidiously disturb its calm.

As the girl grows to womanhood, the impression made by these influences upon her plastic child-nature cannot be entirely thrown off. If she be of a strong and womanly type, she will meet the physical and social trials of life with such character and self-possession as she may, but they will have for such a one a double force. Life offers only too many facilities for overtaxing the sympathies of the unduly sensitive individual. The appeals of misery, poverty, and sorrow sound in every ear. The woman who would maintain a just equilibrium between sentimental mourning and efficient sympathy for these facts of existence needs to be reinforced, not weakened, by the education of her childhood. And if to the friction of any life we add the strain of an elaborate social system, if our young woman be a society girl, with all the demands of a high-bred life of fashion upon her time, temper, versatility, and self-control, we have one more influence which maintains her at constantly high emotional pressure.

It is evident that the sum of these and similar forces constantly exerted upon the mind of women must have their due effect. The normal result of the stimulation of any organ of the body is well known to be a final loss of health in that organ. When the faculties of the mind, called out in the display of the emotions, are overtaxed, we generally find either a lack of will-power or a deficiency in reason and judgment, and our common expression for that condition is that such an individual is not well balanced.

It is possible that some of us have heard it suggested that woman is a less reasonable being than man. It has, indeed, been whispered that she—regarding her as a type, not as an individual—is less logical, less temperate in her judgments, more easily controlled by appeals to the feelings. In the recent article by Ouida in the *North American Review*, speaking of the character of a woman's mind, she says: "The female mind has a radical weakness, which is often also its peculiar charm; it is intensely subjective; it is only reluctantly forced to be impersonal." Such opinions are not entirely unfamiliar to any of us.

We are in no wise concerned for the final judgment of mankind upon the mind of woman, nor do we imagine that it requires championship. But it is easily apparent that this very grace of her nature may be turned to bad account through undue stimulation, and that, through inheritance and the influences we have briefly suggested, she may acquire a tendency toward an unduly subjective type of mind—a tendency which threatens the loss of a just intellectual sense of proportion, and which, therefore, cannot conduce to sound mentality.

(To be concluded.)

The following composition of a school boy is a good illustration of physiology "as she is taught" in our public schools: "The human body is made up of the head, the thorax, and the abdomen. The head contains the brains, when there is any. The thorax contains the heart, lungs, and diaphragm. The abdomen contains the bowels, of which there are five—A, E, I, O, U, and sometimes W and Y."

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When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."
—*Charles Mackay.*

ON THE POWER OF MUSIC AND ITS PLACE IN MEDICINE.

By Guy C. Rothery.

FIRST PAPER.

"A cheerful mind," says that learned monk, Roger Bacon, "brings power and vigor, makes a man rejoice, stirs up nature, and helps her in her actions and motions, of which sort are joy, mirth, and whatever provoakes to laughter, as also instrumental musick and songs, to converse with company which discourse facetiously, to look on the heavens and stars." Weighty words, these, of a true philosopher, in an age of darkness and ignorance. Music is, indeed, a universal mode of expression, appealing to the common emotional nature of mankind. Moreover, it persists throughout nature; we have it in the rhythmic ebb and flow of the waters, in the hum of myriads of insects, in the sighing of zephyr-tossed trees.*

All this was early recognized, and although ancient music was only developed to the merest rudimentary forms, yet Plato said that the virtuous man was he whose whole life was in harmony with music. Pythagoras declared music to be so incalculably above the senses, that it required the loftiest of intellects to comprehend it. He viewed music as the almost supreme expression of life and government throughout Nature and her works. Aristoxenes would have had it introduced at every meal, inasmuch, said he, that its sublime symmetry restrained mental and physical excess. Then, again, what have not Aristotle, Archytas, Chiron, and many others said of music? May we not fairly ask ourselves, what would they have said had they known music in its present high development? For, putting aside the wild conjectures of the Middle Age Latinists,† we must acknowledge that music, as now understood, is a product of these latter centuries. Music develops as the human intellect endeavours to soar above mundane trivialities in rapt ecstasy, in search of a Divine ideal. The rough savage, the grovelling heathen, knew not, know not what music really is. Still, harmony seems a part of nature, as much as light or heat, and can hardly be justly claimed as a human invention.‡

We have been told that music has not an intellectual but an emotional, a physiological basis. It "arouses dormant sentiments of which we had not conceived the possibility and do not know the meaning."* Such a theory hardly seems to agree with facts, but, adopting it as true, we only see in it a strengthening of the arguments of those who would wish to see music, with its undoubtedly vast influence, brought within the range of pathological possibilities. Hippocrates, Galen, Celsus, and a host of others, repeatedly recognized music as a therapeutical agent of the utmost value, and warmly advocated its use in the cure of disease. In the Bible we read: "When the evil spirit from God was upon Saul, then David took an harp and played with his hands. So Saul was refreshed, and was well, and the evil spirit departed from him." The Psalmist tells us over and over again of the far reaching influence of music on suffering human nature. Pythagoras looked for music in the universe, practical philosophers have caught it and trained it for the benefit of common mortals.

Now, I am well aware that many of those who are inclined to regard medicine as an exact science, will be apt to disregard ancient authority and modern theory in this matter, and ask how it is possible for an emotional art to act physiologically? These doubters we will send to Helmholtz, Herbert Spencer, and Grant Allen. Looking at music merely from the physicist's point of view, we must still allow that its influence, both mental and physical, may be considerable, principally owing to the emotional character of our natures. For body and mind are so closely allied, their natural sympathy so subtle and intricate, that what affects the one will affect the other.* As Southey says, "As the beams to the house, as the bones to the microcosm of man, so is order to all things:" a truth patent to physiological students.

Herbert Spencer, speaking of the intellectual and psychological aspect of music, says: "Those vague feelings of unexperienced felicity which music arouses—those indefinite impressions of an unknown ideal life which it calls up, may be considered as a prophecy, to the fulfilment of which music is itself partly instrumental. The strange capacity which we have for being so affected by melody and harmony, may be taken to imply both that it is within the possibilities of our natures to realize those intenser delights they dimly suggest, and that they are in some way concerned in the realization of them. On this supposition the power and the meaning of music become comprehensible, but otherwise they are a mystery."†

It will be necessary to give a brief account of the theory of music advanced by the physicist, viz., the Undulatory or Sound Wave Theory, of which the German, Helmholtz, is the great modern exponent.‡

According to this mechanical explanation music is merely harmonized sound—assonance is contradistinction to dissonance. Now, sound is produced by vibrations in the air; tremulous motion is set up by mechanically imparting a concussion to the highly elastic atmospheric atoms; these undulations are more or less extensive and far-reaching, slow or rapid, according to the strength and nature of the concussion imparted to the atmosphere—quality and tone also depending largely upon the nature of the mechanical agent made use of. Such undulations are known as sound waves, and reaching the region of the ear, impart their activity to the air in and around the aural cavity, and so act directly on the thin membranous tympanum or ear-drum. These motions affect the aural nerves, which duly carry the impression or "message" to the nervous centres and brain, making us conscious of a noise—harmonic or otherwise. This is but a rough, perhaps unsatisfactory, account of the undulatory theory of music, but, strictly divested of all its technicalities, the above is a correct outline of the mechanical doctrine. For more elaborate details, the reader should consult

* "Cette force magnétique de l'harmonie est répandue dans tous les corps de la nature. Corps inertes et corps animés, corps bruts à peine ébauchés ou parfaits et complets, sont soumis à son empire. La grève retentit sous le choc de la vague; le rocher battu par la tempête rend des sons effrayants, et la forêt agitée par le vent fait entendre des gémissements terribles."—*H. Chomet, Docteur en médecine.*

* For power of ancient music, see Brocklesby, Burney, Chomet, &c.

† Burney. * Herbert Spencer.

* "When any laws of the animal economy are but partially disturbed, the constitution of the whole sympathises accordingly."—*Richard Brocklesby, M.D.*

† "Essays: The Origin and Function of Music," by H. Spencer.

‡ "Physiological Grounds of the Theory of Music," Helmholtz.

Helmholtz's bulky tome, or Mr. Sully's "Sensation and Intuition."

Many years ago this theory was practically applied to medicine, when Dr. P. J. Burette, editor of the celebrated *Journal des Sçavans*, made a searching inquiry into the works of the ancients dealing with music. He sifted the evidence with commendable zeal, carried on personal experiments, and arrived at the conclusion that music, by repeated shocks given to the nerves and other parts of the system by atmospheric vibrations, was of use in the cure of disease. He held that it worked on the discomforted organism by pleasing the ear, diverting attention from too close observation of discomposing symptoms; then, by causing violent vibrations of the nerves, moved the "humours" and "animal spirits," and broke down any malign obstructions. This doctrine might well hold good with the practitioner of to-day, now that we have witnessed a partial return to the discarded "humoralism" of our ancestors.*

LONDON AND ITS FOGS.

Day after day there was no perceptible movement of the air; and as a natural consequence, the fog grew blacker and more dismal, until at last the distinction between night and day became purely imaginary. An enormous amount of gas must have been consumed, for the fog was very general over the United Kingdom. Fortunate were the gas managers who were able to begin the week with full stocks, and were prepared day after day to let the public have as much gas as they wanted.

To read of fleets of vessels kept outside harbours, of trains running into each other, of men walking into canals, mail carts going astray, and the other results of a dense and universal fog, is far more impressive than anything that newspaper writers can remark upon the subject. The worst of it is that the world which suffers from fog, reads of the mischief brought about thereby, and would do anything to be delivered from fog, forgets all about the matter as soon as a breath of wind drives the unpleasant visitor away. It is more than probable that if a kind of respirator and eye protector for use in foggy weather were to be offered for sale in shops, it would remain dead stock all the year round, even although its merits were so conspicuous as to insure a great sale during the actual prevalence of fog. The climate of the British Isles is so notoriously inconstant in all its modes that we who have to endure its fickleness do so without any more thought than that a change will be sure to come speedily over whatever meteorological conditions may prevail at the moment.

Thus it is that we suffer more from cold than Russians or Canadians, and from heat more than West Indians, simply because we cannot depend upon any such continuance of frost or sunshine as would warrant our adapting our way of living to either condition. So it is with fogs. We know perfectly well that there will be a dozen or more foggy days every winter, but this knowledge does not make the slightest difference in our domestic arrangements, even though we may know that there is a clear connection between the two. No Englishman will think it worth while to seriously modify his fire grates and cooking stoves solely on account of fog. His fire in winter is a permanent institution, while fog, which the smoke of the fire makes more objectionable than would otherwise be the case, is a passing infliction. Consequently, the fire blazes, glows, and smokes indoors, winter after winter, while the fog crawls over the land fitfully, and its nauseousness to him while out of doors only makes the Briton stir his fire more briskly when he gets home.

Some of the newspapers have published the usual flood of nonsense, to the effect that smoky household fires, which are admittedly the cause of the most irritating characteristics of town fogs in England, are wilful productions of the callous or ignorant householder and his yet more reactionary builder; and one writer whom we have noticed goes so far as to declare that nothing but a severe law, rendering it penal in anybody to purchase or use a smoky fire-grate, will ever awaken Englishmen to a proper sense of their duties in this respect.

Before we can pass an act for the suppression, under penalty, of smoke from house chimneys, we must be in possession of the material means for carrying out the reform, and of this there is no prospect. There are, of course, degrees of excellence, in the smoke prevention sense, in fire grates, but calling a grate smokeless is like calling a building fireproof. In both cases the point really depends upon the quality of the contents. No grate is smokeless until the fire is out, just as no building is fireproof if it contains combustible materials.

If the virulence of English town fogs is ever to be abated, it will be by dint of steady, quiet, unobtrusive alterations of domestic arrangements which it would be beneath the dignity of a newspaper writer to notice. It is not too much to hope that in time the production of smoke from house chimneys will be stopped for at least the summer half of the year, owing to a general use of gas-cooking stoves and kitcheners burning small coke. Already there is a very sensible difference in this respect, for in entire rows of houses in many towns not a single fire is lighted for months together. The more that gas is popularized among the poor, by weekly collections of rental, automatic prepayment meters, and similar devices, the more smokeless will our towns become, for the humblest workman's wife is the most likely to appreciate the labour and time-saving capabilities of the simple boiling stove for preparing the early cup of tea, and it is the small fires otherwise required for such a purpose that make the most smoke.

Smokelessness in summer is a very good object for immediate endeavour; winter smokelessness is a more serious problem. Abuse it as we may, the cheerful open fire of coals is most suitable for combating the chills and damps which make up an English winter.—*Journal of Gas Lighting.*

* Dr. A. M. Brown, Sir William Aitken, Professor Gautier, Mr. Reginald Harrison.

Lanolin in the Skin Diseases of Childhood.—Ointments in which pure lanolin, or lanolin with 10 or 15 per cent. of water, is the basis, are strongly recommended by Dr. Russell Sturgis in the treatment of eczema and urticaria in children. In acute eczema he first directs the affected surface to be cleansed in the usual way, and if weeping copiously, to be then dusted with finely powdered boracic acid; as soon as the inflammation has sufficiently subsided, an ointment of boracic acid, two drachms to lanolin one ounce, is prescribed. In eczema faciei, with induration, he finds a copious application of pure lanolin thoroughly rubbed in very useful; where the induration is very considerable, the addition of salicylic acid (gr. 5—15 to one ounce) is recommended. Simple lanolin acted most favourably in chroni urticaria.

Public Health

"Health is the first Wealth."—*Emerson.*

THE MEAT FOOD-SUPPLY OF THE NATION AND ITS FUTURE.

By Azel Ames, Jr., M.D.

FIRST PAPER.

Every sanitarian will unhesitatingly admit that the food-supply of a nation is its first, its chief concern, for "health, the first wealth," as Emerson puts it, yea, even life itself, depends upon the food-supply. To-day no problem affecting the health, even the life of the people, calls more imperatively for the earnest attention of sanitarian, statesman, or economist.

Closely related to the welfare of the nation and to its food products, lie the questions of their export trade and transportation traffic, through which much of our wealth and attendant advantages are secured. They are not easily divorced, and add dignity and importance to the subject.

No exact and entirely reliable census has ever been taken of the wealth of the nation in food animals, and even had there been, the terrible inroads of disease and the great losses of the herds of the southwest and northwest from severe droughts and winter hardships in the past two years, would have seriously affected its footings. A sufficient approximate has, however, been made to furnish a reasonable basis for the calculations we shall consider, while the near approach of the decennial census of 1890 prompts the hope of that thorough renumeration which is so essential, and upon which so much depends.

Whatever the sum of this animal wealth may actually have been, it has surely been considerably reduced, and is now more seriously threatened than ever before by causes both natural and abnormal, which affect alike its character, its abundance, and its price.

Our abundant national resources have not only made possible our gigantic populative increase, but have brought to our shores the ill-starred millions of the whole world who have settled up the country from ocean to ocean. We now number a population of 60,000,000 which is at present doubling itself every twenty-five years, and whose geometrical power of increase is simply appalling. Hitherto, the vast prairies and rich pastures, the broad corn-belt, and the wide-spread ranges with their wonderful native grasses, have been equal to the support of a store of animal life that seemed to guarantee for generations the meat-supply of this and other lands. Steadily, however, the march of westward-sweeping population has narrowed the free-grazing areas, as steadily the corn-lands and rich fields of the Eastern states have become too valuable for grazing. With equal pace and with the distribution of wealth, the consumption of meat, *per capita*, has increased, while an export trade in cattle and swine and their products with the markets of western Europe, has grown year by year, until it has become enormous, and is to-day our chief reliance to bring foreign revenues to our shores.

Almost unconsciously, but nevertheless with great rapidity, we are approaching those conditions as between population and food-supply which are the chief anxieties of European nations. The problems of the old world are fast becoming ours. It is declared by high authority that so closely related are food-supply and demand in Belgium, so narrow the margin of surplus food above immediate wants of her people, even under extreme economy, that by consulting the prices current of her staples at a period twenty years back, her War Office can determine with great accuracy, not only the number of young men for the army, who can be drawn from a given province, but what their average height will be.

Webster, in his famous "turnip speech," pointed out how the failure of that crop in Great Britain could provoke disaster in her money centres, and that the destruction of the pea crop alone, in France, was equivalent to bread-riots and barricades in the streets of Paris. While we are yet generations removed from such narrow limits we are unmistakably moving rapidly toward conditions, especially as to our meat food-supply, which challenge our most earnest attention and invoke every aid to defer and lessen, so far as possible, their effects.

The United States commissioner of agriculture has stated officially that, whereas in 1860 we had 814 head of neat cattle to the 1,000 population, in 1885 we had but 722 head to the 1,000, and this notwithstanding the facts that in 1860 there were no herds west of the Missouri, where now there range millions of cattle, and that since that date the holdings of the Eastern States have more than doubled.

So rapid has been the advance of our population and so great the losses to our herds, that there are to-day undoubtedly less than 700 head to the 1,000 of population as compared with 814 head in 1860.

In but one direction alone does science seem to have been able to affect the force of the Malthusian doctrine, that while population increases geometrically, food increases only arithmetically.

Where the ovum from which life is derived can be fecundated or incubated outside the producer, science has been able greatly to multiply results, in fish-spawn 90 per cent. being now fertilized by artificial aids in place of only 10 per cent. by natural methods. With poultry-eggs the incubators are able indefinitely to multiply the product, but with the progeny of mammals no rapid road to increase is found. It still takes three years to make a steer, and it is a significant fact that while the calf that is born to-day is becoming a three-year old fit for beef, the population of the United States that is to eat him will increase nearly seven and a quarter millions of people, nearly twice the population of the whole country at the breaking out of the revolutionary war.

Not only is our population thus enormously increasing, but our consumption of meat *per capita* is at the same time steadily mounting up. We consume to-day 150 pounds of meat *per capita*, against 111 pounds in 1860, while the consumption of Great Britain has advanced in the same time from 77 pounds *per capita* to 109 pounds.

America makes good to-day the deficiency of the meat supply of Western Europe by an astonishing total of 800,000 tons. It needs but little arithmetic to show that to give our people, twenty years from now, the same amount of beef alone, per head, they at present consume, we must carry our present holdings of less than 40,000,000 head of cattle to 70,000,000; a thing in itself impossible.

It seems well-nigh certain that in twenty years there will be as few people able to eat beef twice a week, in our great cities, as are now able to afford it in the great manufacturing towns of Lancashire and Lincolnshire in England.

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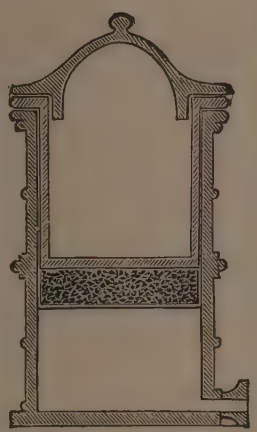

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For a Gangrene, melting a little in a wound, without using a tent.
For Pains in the Stomach, rubbed in before the fire.
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The first stomach of the ruminating animal demands "long food," that the "chewing of the cud" may furnish that flow of saliva with its contained ptyalin which the cereals and other foods require for digestion. Grass, and its cured product, hay, have so long constituted this "long food" that it has come to be an apophthegm that "the extent of the grazing area is the limit of the beef producing capacity of the land."

Increase of scientific attention to breeding, feeding, &c., has established the fact that for the production of a larger animal—of 1,000 pounds upon four hoofs instead of 1,200—for the quick maturing of this animal and his best results in "marbled beef"—the streak of fat and streak of lean, as against the laying on of tallow fat—the corn-belt must supplement the grazing area, and corn-fodder extend the product of the pasture and range.

The rapid occupation of the range country by settlement soon caused the herds grazing upon it to become too numerous, and "overstocked" was a general complaint. The "spaying-knife" was called into requisition as the alternative to starvation, and tens of thousands of matrices thus destroyed to make the range equal to the support of those that remained. Texas, with superior advantages for cheap and prolific breeding, but having no native grasses on which to fatten her herds, had long found a ready market for them upon the ranges of the North-West. These now "overstocked," and favouring a better class of animal, fearful of the ravages of Texas fever, now rendered greater than ever by the closing of the trail and the increased transit by rail, have no further use for the Southern cattle, and Texas, as a source of bovine food, has become, and must still further become, a lessening factor in its supply, though she may instead give us our mutton.

Fireproofing Solution.—For rendering fabrics, wood, and other inflammable objects fireproof, a writer recommends borotungstate of soda, a salt which he states has never hitherto been employed for the purpose. It is made by dissolving boric acid in a hot solution of tungstate of soda. Objects impregnated with this solution are rendered incombustible. The solution gives off no deleterious gas, while ammoniacal salts, phosphate of ammonia, and salts of phosphorus render the air irrespirable. Borotungstate of soda in solution is also said to possess valuable antiseptic properties, and has been used with the greatest success in diphtheria, for dressing wounds, and as a wash in cases where an antiseptic is needed. The solution has no odour, but its taste is bitter.

Magazines of the Month.—*The Century Magazine* for April is an interesting number, containing as it does articles "From Dan to Beersheba," by E. L. Wilson; on "Robert Louis Stevenson"; and on "The Russian Penal Code." The latter is by Mr. G. Kennan, whose revelations of Russian State tyranny show the extent to which an autocratic government may torture the humanity it rules. "Two Kentucky Gentlemen of the Old School" is also a charmingly written paper. *Belgravia* for April presents us with a remarkably extensive shilling's-worth of completed fiction and serial tales; while the *Gentleman's Magazine*, appealing to more serious minds, gives interesting papers on "The Play Bill," "Mr. Pepys," and "Victorian Literature." Messrs. Cassell & Co. issue for April part 47 of *The Countries of the World* and part 18 of *The Illustrated History of England*. Both serials contrive to maintain the interest which their first numbers promised.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

Food Analysis in London.—Although for some years past about 23 per cent. of the total number of samples of spirits examined under the Act in England and Wales have been found adulterated with water, this form of tampering does not obtain to an appreciable extent in the City of London. Although in many instances the publican waters his spirits to an unreasonable extent, and a large portion of those he has examined in the City are cunningly reduced perilously near the authorized margin, Dr. Sedgwick Saunders is bound to add that with this exception, no deleterious ingredients have been discovered. In the case of beer, it seems that the analyst can do little to protect the public so long as there is no legal definition of its ingredients. Tea does not very frequently come under the notice of the public analyst, as teas are now examined in bond by the analyst of the Commissioners of Customs, who in 1886 received no fewer than 2,546 samples. These represented consignments amounting in the aggregate to many thousands of packages. No fewer than 7,225 came under the prohibitory provisions of the Act, and were either seized or restricted to exportation. Of these, 5,113 were "capers," and were adulterated with exhausted leaves to an extent varying from 10 to 20 per cent., besides being loaded with from 7 to 11 per cent of sand. 1,693 were Congous, 1,575 of which were China teas from Marseilles, the remainder from China. These teas were all adulterated with exhausted leaves varying from 20 to 30 per cent.; 420 were tea-dust from China, containing 10 per cent. of mineral matter; 21 tea-dust from Japan, with 18 per cent. of mineral matter; 4 packages green tea from Singapore, with 6 per cent. mineral matter and mixed with leaves other than tea. There were also four packages which were unfit for human food, and which were seized and destroyed accordingly. As distinguished from the above, the teas from India and Ceylon seem to be rarely adulterated. That this inspection is very thorough is shown by the fact that in the same year public analysts examined 511 samples, only one of which was reported to be adulterated. The only tea which Dr. Sedgwick Saunders examined last year, however, had been improperly passed. It had been submerged in the Thames and redried. It was subsequently sold by public auction for five farthings a pound and exported immediately. In some observations with reference to the working of these Acts, Dr. Sedgwick Saunders mentions that from the earliest times attempts were made to prevent the sale of unwholesome or adulterated food; but it was not until the reign of Henry III., 1266, that any enactment on the subject was placed upon the Statute Book, and even then the Act only applied to goods sold by butchers, brewers, and bakers. That this was an honest attempt to meet a growing evil will be seen by the severity with which our civic ancestors were empowered to deal with fraudulent bakers, which, for its quaintness, is reproduced. The Act directs:—"If any default shall be found in the bread of a baker in the City, the first time let him be drawn upon a hurdle from the Guildhall to his own house, through the great street where there be most people assembled and through the great streets which are most dirty, with the faulty loaf

hanging from his neck. If a second time he shall be found committing the same offence, let him be drawn from the Guildhall through the great street of Cheap in the manner aforesaid to the pillory, and let him be put upon the pillory and remain there at least one hour in the day; and the third time that such default shall be found he shall be drawn, and the oven shall be pulled down, and the baker made to forswear the trade in the City for ever."

Native Doctors in South Africa.—The wizard or witch doctor is a very cunning shrewd fellow, and he must also be a doctor of medicine. Rain doctors are supposed to have the power of causing rain to fall, and are appealed to after a long drought; but they are clever enough never to commence their incantations until indications of rain are discernible, and consequently they are always sure of success. Next come the lightning doctors, who dance around the kraals they have been summoned to defend, brandishing their assegais during the flashes and violence of the storm in a manner that suggests insanity to the European observer. Naturally they are more frequently successful than unsuccessful. The hail doctors, again, believe that by burning medicine while the hail is yet distant they diminish its power, and that when they leave their huts to command it to depart it will return whence it came. Last, but not least is the medicine doctor. Sickness, the natives believe is always caused by an enemy, or by the will of the spirits of their departed ancestors or relatives who generally protect them from harm, but who, being sometimes angry, allow sickness to overtake them or the machinations of their enemies to prevail. The doctor's father and grandfather have generally been in the profession before him, and the secrets of the healing art have thus been handed down from generation to generation; though in some instances he is a self-taught man, who has picked up some knowledge of diseases, roots and herbs, by observation and experience; but no faith whatever is reposed in a doctor or diviner who happens to be fat. The medicines employed are mostly innocent, but still many powerful drugs are included in their pharmacopœia; for instance, they use the male fern (*inkomankoma, lastred felix mas*) as a remedy for tape-worm, emetics by the gallon for slight ailments, and, as correctives after their beer-drinking orgies, other medicaments so powerful that whole families, both black and white, have been carried off by their felonious administration; but their useful medicines are so mixed up with useless adulterations that in most cases it would be better for the patient to "throw physic to the dogs." It used to be the case of "no cure, no pay;" for, according to their law, if the patients died, or did not recover until another medical man had been called in, the doctor got no payment; but in Natal now, on first attendance the doctor requires a preliminary fee of ten shillings, nominally to buy medicine; but at the same time he stipulates for receiving a bullock in case of a cure being effected. As a rule, they administer harmless drugs, thinking it safest to believe in the motto of "Vis medicatrix naturæ," for there is no doubt the majority are the most arrant quacks ever known. Some who rank high in the profession travel from place to place, and, as the result of their skill and knowledge of human nature, return home after an absence of months, or it may be years, rich in the possession of large herds of cattle. The doctor of medicine is also often a witch doctor, and so combines in one a knowledge of the two branches of the profession.—*Dr. Matthews.*

IMPORTANT ANNOUNCEMENT.

COMMENCEMENT OF A NEW VOLUME OF "HEALTH."

Health, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the Publisher, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain Health from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we take the opportunity afforded by the Commencement of a New Volume to offer the following Free Gifts and Bonuses to all who subscribe to Health for one year or longer, on and after Friday, April 6th, when the first number of Volume XI. will be issued:—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of Health, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of Health weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of Health so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of Health, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, "Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to Health, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

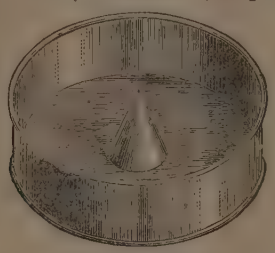
As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with Health should be addressed directly to the Publisher, 2, Paternoster-square, London, E.C., and *not to the Editor.*

Carbonate of Soda in Milk.—The addition of the bicarbonate of soda to milk for its preservation has hitherto been tolerated by the police, but the Council of Hygiene of the Seine has condemned the practice, as it is not free from danger. The transformation of the sugar of milk into lactic acid gives rise, in milk so adulterated, to a lactate of soda which is purgative, and is thus a cause of diarrhœa in young children. Under these conditions, the Council considers that the addition of bicarbonate of soda to milk, which is an aliment of the first order, and very often prescribed for invalid children, should neither be authorized nor tolerated.

Sanitary Appliances, Etc.

IMPROVED COOKING APPLIANCES.

Stanley's Patent Heat Conductors for all kinds of Meat and Fish Cookery having proved such a splendid success, the patentee has put his scientific invention to further use, and now Heat Conducting Bread and Cake Tins (see illustration) are proved to be equally



efficacious. These appliances save 25 per cent. of time and firing, and insure the centre of the cake being thoroughly baked without the outside being in the slightest degree overdone. Their use guarantees light and wholesome bread and cakes. In private houses they will be found of great use; they are highly economical, while to bakers they are invaluable. The hole which is left in the centre of the cake is not seen from the top, and prevents all crumbling and waste in cutting up the cake. The conductor is made of pure copper, plated to render it perfectly wholesome. In this important discovery Mr. Stanley has supplied a want long felt, and the manufacturer, H. T. Tallack, of 28, Hatton-garden, is now supplying them in various sizes.

Our Letter-Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "The Editor of Health," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* Mr. A. P. Watt, The Publisher, *at the same address.*

RULES FOR CORRESPONDENTS.

Owing to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the Letter-Box Department of Health, to the following rules:—

1. All questions are answered free of charge in the columns of Health.
2. All letters must be legibly addressed to "The Editor of Health, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of Health. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded free to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending Health to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.

Post Cards must be used in sending queries. Violation of rule deprives the sender of the privilege of a reply.

LETTERS TO THE EDITOR.

THE VACCINATION CONTROVERSY.

Sir,—Being *hors de combat* by reason of indisposition, I ventured, on seeing your comments on my letter in Health for the 9th March, to request a friend who has devoted much careful study to the facts of this controversy to be good enough to reply, and as I have no doubt he has done so, I will only trouble you with one or two observations, and then endeavour, in as brief a compass as may be, to deal with the rather pugnacious challenge of your correspondent, "Observer."

Allow me to say that I am somewhat surprised that objection should be made to what is described as "the abusive tone of the writers of the journal which champions the anti-vaccination cause and craze," the *Vaccination Inquirer*, because this journal has the credit amongst both friends and adversaries of being conducted with singular fairness and impartiality—the editor never resorting to abuse, nor refusing the right of reply. I freely allow that on occasions strong language is used—a spade is called a spade; but it must be remembered that when a parent loses a healthy child by an operation described as benign, to which he must submit—and this loss not seldom occurs after weeks of dreadful suffering—it is not in human nature to restrain his feeling of indignation. When objection is made to language used under such keen and unmerited provocation, I am reminded of a notable reply made by one of the greatest reformers of this century, William Lloyd Garrison, who led the memorable struggle for the abolition of slavery, and was often accused of the severity of his language. He said, "I will be as harsh as truth, I will be as uncompromising as justice, I will not equivocate, I will not retreat, and I will be heard." It would not be difficult to fill a couple of pages with specimens of choice expletives levelled upon the opponents of compulsory vaccination by leading vaccine propagandists, which for sheer malevolence would challenge comparison with what Mr. Disraeli would call the most brilliant "ornaments of debate" extant. But to what good? Would they help the inquirer to the belief or unbelief in Jenner's infallible preventive or convince sensible and rational men that to punish honest parents as malefactors for rejecting the vaccine dogma was a just or reasonable proceeding? I have always counselled, and shall continue to counsel, the utmost courtesy to our opponents. Already quite a number of clever and one distinguished defender of vaccination—

NERVOUS EXHAUSTION.

PULVERMACHER'S World-Famed GALVANIC BELTS for the Cure of Nervous Exhaustion and Debility, have received testimonials from three Physicians to Her Majesty the Queen, and over Forty Members of the Royal College of Physicians of London.

The distressing symptoms of NERVOUS EXHAUSTION and DEBILITY are speedily removed by means of **PULVERMACHER'S world-famed Galvanic Belts,** which are so arranged as to convey a powerful electric current direct to the affected parts, gradually stimulating and strengthening all the nerves and muscles, and speedily arresting all symptoms of waste and decay.

Dr. Vines, Fellow of the Royal College of Physicians, writes 19th September, 1885: "Having used MR. PULVERMACHER'S BELTS for many years, in the course of medical practice, I am in a position to speak of their great value as a curative agent in cases of nervous disease or functional malady where Electricity is likely to be serviceable. I am entirely convinced of their efficacy."

Dr. C. Handfield Jones, F.R.C.P., F.R.S., Physician to St. Mary's Hospital, says: "I am satisfied that MR. PULVERMACHER is an honest and earnest labourer in the field of science, and I think he deserves to meet with every encouragement from the profession and scientific men."

Dr. Golding Bird, M.D., Physician, Guy's Hospital, says: "I can hardly recommend MR. PULVERMACHER'S INVENTION too strongly to the notice of my medical brethren."

For full Price List and particulars, see New Pamphlet, **"GALVANISM: Nature's Chief Restorer of Impaired Vital Energy."** Post Free from

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the late Dr. W. B. Carpenter—have accepted invitations to defend their views at our monthly conference in London, and they have testified to the consideration and respect always shown them. I must now turn to your correspondent, "Observer," who challenges me to answer him categorically on one important and crucial point—the causal connection of cancer with vaccination. "Now," says "Observer," "this is a deliberate and specific statement, and I demand that Mr. Tebb should furnish a waiting world with the exact evidence on which this statement regarding cancer is founded," and he then proceeds to stigmatize the statement that cancer may follow—I suppose he means result—from vaccination as "literally monstrous," and adds, "there must be no shuffling." It is not easy to say what kind of evidence would satisfy such an exacting controversialist, and I am not so presumptuous as to suppose that any one in particular is anxious to hear my explanation. The statement referred to by "Observer," permit me to say, is not mine, but that of one of the medical witnesses in Dr. Makuna's Vaccination Inquiry; and the case does not, as "Observer" would seem to think, by any means stand alone. It is said that testimonies should be weighed as well as counted, and a similar belief is held by medical men whose experience and opportunities for clinical observation entitled their opinions to respect. A few months ago I visited an old established children's hospital in the North of England, when the medical superintendent told me that he traced many of the diseases which afflicted the children under his care—particularly those of a tumorous and cancerous character—to vaccination, and he had made the subject a special study. Dr. William Forbes Laurie, late medical director of St. Saviour's Cancer Hospital, Regent's Park, was so thoroughly convinced that the increase of cancer was due to vaccination, and he wrote to members of Parliament inviting them to visit the hospital and witness the results of the vaccine operation. He says this increase of cancer is "attributed by some medical men to the large amount of syphilitic disease with which vaccine lymph is impregnated," and others to the direct impregnation "of healthy persons with lymph imbued with scrofulous and cancerous matter." And Dr. Dennis Turnbull, who has made cancer his particular study for thirty years, has arrived at a similar conclusion. The *British Medical Journal* for May 19th, 1885, in a leading article on the increasing fatality of cancer, says: "Our negligence in dealing effectually with other diseases may also favour its dissemination; for if syphilitic inflammation may become cancerous, it is clear that the spread of syphilis has scattered throughout the population innumerable possible seeds of cancerous degeneration." Some time ago the *Hospital Gazette* reported that fifty infants had been admitted into one hospital within a month suffering from syphilitic disease, from some of which vaccine lymph had been taken. This is an indication how the cancer-spreading virus may be distributed; and the fact of such distribution by vaccination, after having been vehemently denied by the profession, is now, I believe, generally admitted. The recent discriminating and impartial review in HEALTH of Dr. Creighton's "History of Cow-pox and Syphilis," and the issue of several publications by Dr. Hubert Boëns, of Charleroi, pointing to similar conclusions, indicates an important change in public opinion, which must before long result in radical legislative action regarding the enforcement of vaccination.—Yours faithfully,

WILLIAM TEBB.

Ss. "Aloya," Gibraltar.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

A. L. B.—Try a teaspoonful of the following lotion, in a wineglassful of warm water, every morning as a mouth-wash. It will restore firmness to the gums when the teeth are loose:—Tannin, one and a half drachms; iodide of potassium, twelve grains; tincture of iodine, one drachm; tincture of myrrh, one drachm; rose-water, to six ounces. Directions to the druggist are that he dissolve the tannin and potassium iodide in the rose-water. To this add the tinctures, and strain.

T. W. RAPP.—We agree with you that it is an infamous production. We will notice it shortly. Please let us know if the pamphlet was sent to you direct, and if by post, or how?

L.—See and follow advice given to "J. Y. D." in last week's HEALTH. The mixture there ordered and the diet-hints should do good. If not, write again.

TO THE READERS OF "HEALTH."

THE extraordinary statements of General W. F. Nuthall, Captain J. Paige, Rev. C. G. Squirrell, Rev. James Brierly, M.A., J.P., and other prominent men that have appeared in these columns in the past, have not only attracted much attention, but have awakened doubts in the minds of some as to their genuineness. They were, however, correct in every particular, as the following local statements amply confirm:—

244, Brockley-road, Brockley, S.E., Nov. 25, 1887.—I feel it my duty to write and thank you for the bottle of Warner's SAFE Cure which I was persuaded to try, suffering as I have done for so long a time from indigestion and other complaints caused by a sluggish liver and disease of the kidneys. I had tried nearly all the remedies advertised without any good effect, and I am grateful indeed to my friend who recommended me to try Warner's SAFE Cure, for after taking only one bottle, I can truly say that I was astonished at its quick efficacy: it took away all my pains, and I feel quite another being. I have, and you may depend shall continue, to press all my friends suffering from the liver and complaints of the kidneys to take that medicine. You can make what use you like of this letter, as I am grateful to you for producing such medicine, which gave me the relief I had been seeking without avail for so long a time, and I can only hope that all suffering from the complaints named will be induced to try it.

(Signed) J. PRIOR.

40, Haymerle-road, Peckham, London.—I have long been suffering with gravel, for which I have tried many remedies, but derived no special benefit. I also consulted a noted specialist for the bladsage of gravel, and resulting in stone in the bladder. Two years ago I was obliged to undergo an operation, and had a very large stone taken from me, which gave me temporary relief; but the gravel kept passing and accumulating as formerly, the pains in the region of the loins and back were frightful, and I wasted away to a mere shadow, having when in health weighed 11 stone. I could not find any permanent relief until I commenced taking "Warner's SAFE Cure," which was recommended to me. Under its use I soon began to pass stones, of which some ten to fifteen large ones have come away, with a large quantity of gravelly sediment. The pains ceased, and I began to gain flesh after the first bottle or two. I consider the change a miraculous one, and my doctor compliments me on the wonderful way I have recovered since taking the "Warner's SAFE Cure." My husband is so pleased with the good the medicine has effected in my case that he is recommending it to everyone he meets. ROSE PENDALL.

Statements like the foregoing are certainly conclusive evidence of the wonderful merits of this remarkable medicine. No better verification of its purity and power can well be asked. The above testimonials are not from unknown and obscure persons, residing in distant parts of the kingdom, but are the voluntary statements of neighbours and friends living in your own locality, the truth of whose assertions can be easily verified. Are not such proofs sufficient? We can show thousands of similar testimonials from people all over the world. Shake off prejudice! Use the favourite remedy—Warner's SAFE Cure—and enjoy health. For sale by all medicine vendors throughout the world, at 4s. 6d. per bottle, or can be had direct of H. H. WARNER, 86, Clerkenwell Road, London, E.C.

NOX.—Try the effect of applying an ointment, to be compounded as follows:—Lanolin, zinc oxide, and vaseline, of each two drachms; resorcin, one drachm. Mix. Apply night and morning to the part. Wash the parts daily with Bayley's spermaceti soap (17, Cockspur-street, Pall-Mall, London, S.W.).

NOUS VERRONS.—[Why address your letter to the Publisher? Are you not aware that it is the Editor who conducts a journal?] You should live simply—see diet-hints given to "Brummagem" in last week's number, and also rest after your meals regularly. To gain flesh, a dessertspoonful of Scott's Pure Cod Oil Emulsion may be taken after your meals.

G. S. O.—Breakfast at 8.30, dinner at 2, and plain tea at 6, with a very light supper two hours before bedtime might suit you. Rest after meals is necessary, and when flatulence troubles you, take five drops Pure Terebene (Burroughs, Wellcome & Co.'s) on a piece of sugar after food. Avoid excess of vegetables, salt foods, cheese, and pastry, and restrict your tea and coffee. Try Van Houten's Cocoa at tea-time in place of tea itself.

CINQUE PORT.—Try washing the floor and woodwork frequently with carbolic acid and soft soap as a remedy for cockroaches. The floor might also be sprinkled with a solution of carbolic acid and water (one to forty of water, say) night and morning. You should advise freer ventilation of the kitchen.

[*Continued on page* 16.

WHAT IS THIS DISEASE THAT IS COMING UPON US?

LIKE a thief at night, it steals upon us unawares. Many persons have pains about the chest and sides and sometimes in the back. They feel dull and sleepy; the mouth has a bad taste, especially in the morning. A sort of sticky slime collects about the teeth. The appetite is poor. There is a feeling like a heavy load on the stomach; sometimes a faint, all-gone sensation at the pit of the stomach, which food does not satisfy. The eyes are sunken, the hands and feet become cold and feel clammy. After a while a cough sets in, at first dry, but after a few months it is attended with a greenish-coloured expectoration. The afflicted one feels tired all the while, and sleep does not seem to afford any rest. After a time he becomes nervous, irritable, and gloomy, and has evil forebodings. There is a giddiness, a sort of whirling sensation in the head when rising up suddenly. The bowels become costive; the skin is dry and hot at times; the blood becomes thick and stagnant; the whites of the eyes become tinged with yellow; the urine is scanty and high coloured, depositing a sediment after standing. There is frequently a spitting up of the food, sometimes with a sour taste, and sometimes with a sweetish taste; this is frequently attended with palpitation of the heart; the vision becomes impaired, with spots before the eyes; there is a feeling of great prostration and weakness. All of these symptoms are in turn present. It is thought that nearly one-third of our population has this disease in some of its varied forms. It has been found that medical men have mistaken the nature of this disease. Some have treated it for liver complaint, others for kidney disease, &c., &c.; but none of the various kinds of treatment have been attended with success, because the remedy should be such as to act harmoniously upon each one of these organs, and upon the stomach as well; for in Dyspepsia (for this is really what the disease is), all of these organs partake of this disease, and require a remedy that will act upon all at the same time. Mother Seigel's Curative Syrup acts like a charm in this class of complaints, giving immediate relief.

Mother Seigel's Curative Syrup is for sale by all chemists and medicine vendors, price 2s. 6d. per bottle.

An Almanac, containing Testimonials from persons who have received benefit from the use of Mother Seigel's Curative Syrup, will be sent post free on receipt of application, by the proprietors, A. White, Limited, 35, Farringdon London, E.C.

Veritas.—You gave no offence, but you wrote four or five letters before we had time to reply to one, and our advice to you was to the effect that you should see a competent physician, and have your mind relieved. The preparations you name are perfectly reliable, but we do not regard them as suited for your case. Care in diet, plenty of fresh air, and greater ease in your mind are the conditions for your cure.

A. S. (Bo'ness).—Take a dose of Lamplough's Pyretic Saline occasionally in the morning, and have the state of your teeth seen to by a dentist. The following mixture may also be tried:—Chlorate of potash, two drachms; simple syrup, three drachms; camphor water to make up eight ounces. Mix. Label: "A tablespoonful every four hours."

Celt.—[How is it that you addressed your letter to our former office? Attend to the directions to correspondents, clearly given each week.] Read the full article on acne in Health, No. 199, price 2½d. post free from the Publisher. The Lanolin preparations are made by Burroughs, Wellcome & Co., Snow-hill, London, E.C., but are kept by all druggists.

S. Durran.—Try the following:—Liquor ammonia (strong); chloroform and oil of jasmin, of each, half an ounce; castor oil, half a drachm; spirits of rosemary to make up four ounces. To be kept in a stoppered bottle, and labelled, "A little to be carefully rubbed into the hair in the morning." Use also a little of an ointment composed of Lanolin, two drachms, and oil of jasmin, half a drachm. Rub this into the parts at night, so as to prepare them for the lotion in the morning.

Greenhorn.—Give the diet-hints recommended to "Brummagem" last week a fair trial, and do not dose yourself with drugs. You only require care in diet and habits to restore you completely. Rest after your meals especially, as a health-rule. As regards the other matter, you were rightly advised not to consult the London quack you name. Cassell's "Family Physician" is an admirable work for household use.

John M. R.—See advice given to "Greenhorn" above.

Bashful.—1. Dilatation of the small blood-vessels in consequence of mental emotion. 2. It is not a disease, and can only be avoided by the exercise of mental control. 3. Try fifteen drops Fer Bravais, after meals, in water, thrice daily.

Ecce Signum.—Mumps may, by what is called "metastasis," or transference, affect other parts, and may have caused the enlargement you name. It is of no great consequence. Bathe the parts night and morning with Hazeline and cold water (one part to three of water), and wear a suspensory bandage regularly. Avoid constipation by the diet-hints, &c., given to "Brummagem" last week.

An Anxious Inquirer.—Avoid excess of fatty foods, and live plainly and simply. Take plenty of open-air exercise; wash with Bayley's Spermaceti Soap (17, Cockspur-street, Pall-mall, London, S.W.), and take for a time the Fer Bravais as ordered to "Bashful" above. Avoid chills.

M. A. Binns.—Avoid the flour until the child is eight or nine months' old. Use Mellins' Food only (advertised in our pages), and you will find the child will thrive upon it. All starchy foods are injurious to children under eight months' old.

Chatterbox.—Many thanks for your note. Your experience accords with our own in the past.

Sartor Resartus.—Read the article on acne in Health, No. 199 (post free for 2½d. from the Publisher), and note directions there given for the cure of that ailment. You should press out the blackheads when they first form. Take warm baths at bedtime, and favour skin-action. Avoid chills and undue exposure to cold.

Baltic.—Nothing save a dye will accomplish what you wish. Write to the French Hygienic Co., 56, Conduit-street, Regent-street, London, W., and take their advice on the matter.

Basso.—Try tannin lozenges as a convenient form. Tannin should only be used in case of a relaxed throat. It has no effect on voice-culture. Read Sir Morell Mackenzie's book on the "Hygiene of the Voice" (Macmillan & Co.).

Robert Thomson.—The use of the Cascara Cordial and the diet recommended to "Brummagem" in last week's number will probably cure you. If not, write again.

N. E. M.—Try Quebascho Extract as an injection for piles. Follow out the instructions given with the extract, which is sold by Messrs. Brown & Co., Farringdon-street, London, E.C. Bayley's Remedies (see advertisement in our pages) are also an excellent cure.

L. M. M.—Wash the affected parts with Bayley's Spermaceti Soap only, till you are well, and apply the following paste night and morning: Resorcin, one drachm; lanoline, vaseline, zinc oxide, and powdered starch, of each, two drachms. Mix, to form a paste.

Nobilis.—Avoid tea and coffee, and take Grant's Oat Flour to breakfast and supper; this, with twenty drops of Cascara Cordial, taken in water once or twice daily, an hour before food, will probably cure you. Avoid solid flesh-food, and take your meat mostly in the form of strong soups, for making which use Brand's Beef Essence. White boiled fish, stewed fruits, milk puddings, &c., may also be taken.

Frances.—Try the effect of giving fifteen drops Fer Bravais in water, after meals, thrice daily, and, if possible, let the patient stay for a time at a seaside resort. If these measures fail, by all means write again.

Robert G.—You should consult an oculist, and have the eye thoroughly examined. There may be some irregularity in the organ which an eye-surgeon alone will be able to detect.

Lotta.—Take, after your food, fifteen drops Fer Bravais, in water, thrice daily, and try a vegetable dietary.

Young Man.—Apply to Mr. Borthwick, chemist, Selkirk, N.B., for a bottle of his "Winter Cream." This is an excellent skin-preparation.

Aleck R.—The man you consulted is simply a low and well-known London quack. Anyone possessing common sense reading his advertisements would see this. His statements are utter lies.

F. P.—Pye Chavasse's "Advice to a Wife" (Churchill) is a book likely to suit. "Nursery Hygiene," by Dr. Joll (Kimpton) is also a sound book.

P. M.—You will find many references to such literature in "Neal's "Medical Digest" (Ledger, Smith & Co., St. Mary Axe, London, E.C.).

Xexa.—Rest after your meals, and take five drops of Pure Terebene on a piece of sugar after your meals. It is probable your symptoms are due to overwork; but you do not give us sufficient particulars of your diet-habits, occupation, &c., to enable us to judge adequately.

Farmer.—Read and study carefully the pamphlet, "A Lecture to Young Men" (post free, 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), as this work contains information which will prove of value to you, and save you from the hands of quacks.

Ninepins.—Soddy's Baking Powder is an excellent preparation. Having carefully examined it, we can testify to its purity.

Pax.—For the cure of constipation, try the following treatment:—Take twenty drops of Cascara Cordial in water an hour before food, twice daily, and then once daily, as may be required. Follow up the effects of this remedy by care in diet, so as to be able to leave off the Cascara Cordial in due time. As for diet, avoid tea, coffee, salt foods, pastry and cheese. Eat little butcher meat, but take soups made with Brand's Beef Essence, &c. White boiled fish, Marshall's Tritola or Granola, cornflour puddings, and like foods, may be taken. For tea and coffee, substitute Scott's Midlothian Oat Flour, and, above all, take plenty of stewed fruits, apples, prunes, &c. Montgomerie's Malted Bread will also be found useful; eat stale bread only.

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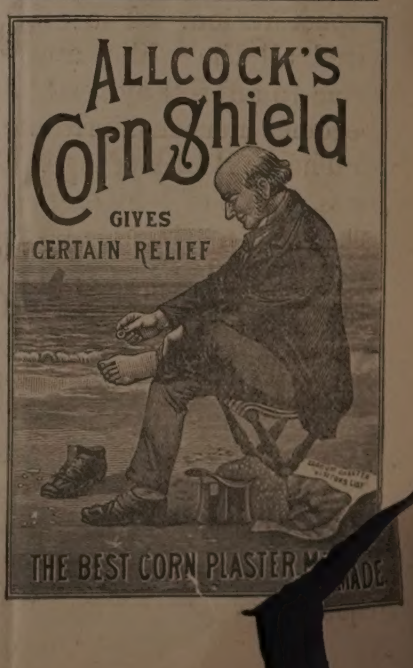

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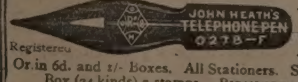

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